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ABSTRACT

Continuing education systems can improve the performance of health workers in countries around the world and support the functioning of district health systems. Continuing education guides health personnel toward the principles and methods of primary health care and improves their work with the community and family to attain an adequate level of health. The components of the district health system continuing education are planning and management, community involvement, financing and resource allocation, and district human resources development. Factors affecting continuing education at district level are: (1) system organization; (2) political and financial commitment; (3) health systems and personnel; (4) educational needs and levels; (5) target groups; (6) involvement; (7) problem solving; (8) resource persons; (9) evaluation; and (10) performance assessment. Both the World Health Organization and its Member States should encourage operational and action research on continuing education and health services to be used in future health planning. (16 references) (NLA)

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Geneva, 2–6 October 1989

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SYSTEMS OF CONTINUING EDUCATION: PRIORITY TO DISTRICT HEALTH PERSONNEL

Report of a WHO Expert Committee

A WHO Expert Committee on Systems of Continuing Education: Priority to District Health Personnel met in Geneva from 2 to 6 October 1989. Dr E. Goon, acting Assistant Director-General, opening the meeting on behalf of the Director-General, pointed out that the changes needed in health-care systems to implement the primary-health-care approach called for competent and motivated health personnel. While there was a need for reform in the conventional education of all categories of health personnel in universities and schools, in both content and learning methods, Member States needed to pay particular attention to the staff already in service, since they could not wait for new staff to graduate to carry out the necessary tasks.

Since WHO had convened the Expert Committee on Continuing Education for Physicians in 1973, Member States had taken many initiatives to increase the relevance and impact of continuing education for health personnel. The present Expert Committee would go beyond this and suggest ways of integrating continuing education with district health management.

The establishment of a system of continuing education and its successful implementation would receive much more attention if policy-makers in the health sector were convinced of the need to improve the performance of the health work-force, which is by far the largest element in the health budget.

Several World Health Assemblies had recognized the crucial role of the district level of national health systems in ensuring universal access to primary health care, and the need for maximum self-reliance in district health systems. For this reason, the Expert Committee had to consider how continuing education could be used systematically to improve the performance of health workers and thereby to support the functioning of district health systems.

1. INTRODUCTION

The personnel of a health-care system are its most valuable and expensive resource, and it makes good economic sense to manage them skilfully. Moreover, concepts, priorities and techniques in the health system are constantly changing, and the knowledge of even recent graduates soon becomes out of date as health-care practices change. Health services, like major industries, must ensure that their personnel are kept abreast of current knowledge and technology in their areas of competence. This is essential not only to ensure a high standard of work, but also to maintain a high level of motivation in the work-force.

Maintaining the competence and motivation of staff is therefore a prime responsibility of district health managers. The most effective way of doing this is through a systematic programme of continuing education which supports health staff at all levels. It can make staff active partners in major policy changes, such as those required by strategies for health for all, and in improvements in technology.

The Committee drew attention to the reports of three previous Expert Committees that had discussed the importance of continuing education for various categories of health worker. In 1983, the WHO Expert Committee on Health Manpower Requirements for the Achievement of Health for All by the Year 2000 through Primary Health Care (*1*) described continuing education in the context of both training and management of health personnel. It pointed out that "a national system of continuing education is required which ensures that all categories of health personnel are given the opportunity to continue learning throughout their careers. Continuing education should be organized as a system because it requires a comprehensive approach, and it involves a diversity of issues and decisions in different sectors and a great deal of support, expertise, and resources that can seldom be provided by a single institution in any country."

In 1987, the WHO Expert Committee on Management of Human Resources for Health (*2*) referred to the need in all countries for a system of continuing education for members of primary-health-care teams. Continuing education, it pointed out, is part of staff development—"the systematic attempt to improve the functioning of an organization through the performance of its staff".

The organizational and educational principles and recommendations drawn up by the WHO Expert Committee on

Continuing Education for Physicians in 1973 (*3*) are valid for systems of continuing education for all health personnel. The Committee pointed out, *inter alia*, that "the most promising way of organizing continuing education appears to be by institutionalization and integration into national health services (both being planned, financed and evaluated together)".

2. THE ROLE OF CONTINUING EDUCATION IN STRENGTHENING THE DISTRICT HEALTH SYSTEM

The continuing education of health workers is defined as the learning experiences, after initial training, that help them to maintain or learn competencies relevant to their areas of responsibility in the provision of health care, including the protection and promotion of health (*4*).

Continuing education is not usually taken to include formal postgraduate education for the purpose of obtaining a further academic qualification or training for a speciality. However, the distinction between continuing education and postgraduate education is not absolute. For example, within a continuing-education system, the health administration may use a higher-education programme to meet a health-service need, such as training a staff member for a higher level or a different kind of responsibility.

A system of continuing education geared to the functioning of a district health system will use any available educational resource that more or less meets its requirements. However, continuing education has largely neglected the most common source of continuous learning—the experience gained in health care itself. Yet it is in the health-care setting that deficiencies in performance become evident, and it is in the same setting, faced with problems to be solved, that health workers can best learn how to solve them. This approach —sometimes referred to as "on-the-job training" or "in-service education"—is emphasized in this report, since the Committee was mainly concerned with the role of continuing education in the functioning of the district health system, and therefore with improving the performance of health personnel in their work within that system. Health personnel also make use of continuing education for their own personal development, in order to gain new or improved skills and knowledge. It is thus a continuous rather than

a sporadic process that can benefit both the individual and the health system as a whole.

Continuing education is needed to help health workers at district level to become more self-sufficient and better able to mobilize neglected local resources, including other individuals as well as nongovernmental and voluntary organizations. Health workers need not only to do their everyday work better but at the same time to learn how to change, how to implement primary health care and how to move from purely curative work towards prevention and promotion activities. District health managers must help them to do this and support them in applying their new skills and knowledge. It is the responsibility of the intermediate and central or national levels to promote and support such self-reliance at the district level.

It is likely to be some time before the reorganization of basic education and training programmes, designed to make primary health care, in the words of the Declaration of Alma-Ata (5), "the central function and main focus" of a country's health system, will have an influence on the functioning of district health systems. Health administrators must rely on continuing education, in the widest sense of the term, to bring about the necessary changes. Even so, education by itself is not enough; health systems must be reorganized and managed in such a way as to permit the necessary changes to be made in health-care practice and administration. In addition, in many parts of the world, the working and living conditions of district health personnel are not conducive to systematic continuing education. These conditions must be improved if the potential of continuing education is to be realized.

Continuing education, for the purposes of this Expert Committee, is thus concerned with guiding all district health personnel towards the concepts, principles and methods of primary health care, and improving their ability to work with the community and family to attain and maintain an adequate level of health. Continuing education must enable health personnel constantly to increase their knowledge and competencies and encourage them to maintain and improve them.

2.1 The concept of the district health system

The emphasis on continuing education for district health personnel is justified by the priority that WHO and Member States have accorded to the district level in strategies for health for all. The

Alma-Ata Conference (5) stressed the need to decentralize development activities to the provincial or district levels: "These levels are near enough to communities to respond sensitively to their practical problems and needs; they are equally near to the central administrative level to translate government policies into practice. They are particularly useful for harmonizing the activities of the various sectors that jointly promote development." A resolution adopted by the Thirty-ninth World Health Assembly in 1986 called on countries to place more emphasis on strengthening district health systems[1] based on primary health care, and asked WHO to provide them with the technical support they needed. The Health Assembly recognized that the principal obstacle to the achievement of health for all was weak organization and management, particularly at the intermediate and district levels of health systems.

The term "district" denotes a defined administrative unit of local government with a population as low as 50 000 or as high as 700 000. A district is small enough to allow for clear diagnosis of the problems and needs of its population, but large enough for sustained mobilization and management of the human, financial, technical, educational and other resources needed to meet local priorities.

A district health system based on primary health care is a more or less self-contained segment of the national health system. It comprises first and foremost a well-defined population, living within a clearly delineated administrative and geographical area, whether urban or rural. It includes all institutions and individuals providing health care in the district, whether governmental, social security, nongovernmental, private or traditional. A district health system therefore consists of a large variety of interrelated elements that contribute to health in homes, schools, work-places and communities, through the health and other related sectors. It includes self-care and all health care workers and facilities, up to and including the hospital at the first referral level, and the appropriate laboratory and other diagnostic and logistic support

[1] The term "system" in "district health system" is to be distinguished from "service". The system encompasses all the factors that can bring about and promote health in a community. The health service, with its personnel, is part of the system. The role of continuing education in the present context is to help in the functioning of the system.

services. Its component elements need to be well coordinated by an officer assigned to this function in order to draw together all these elements and institutions into a fully comprehensive range of promotive, preventive, curative and rehabilitative health activities (see reference 6). Systematic efforts are needed to organize, operate and manage such a system efficiently. Without adequately trained personnel, systematically supported by continuing education, it cannot function effectively.

The concept of a "system" includes coordination, or management, and authority. Although the local administrative unit known as a "district" is very different in different societies, all districts have administrative heads. Often they are district medical officers of health. Sometimes there are district management teams. Whatever their designation, training and experience, all of them are responsible for the management of a system of greater or lesser complexity.

The effectiveness of district health systems will often depend greatly on the support they receive from the central level, as well as on the autonomy granted to them under decentralization. In turn, the exercise of that autonomy will depend on the quality of staff management in the district, which will be greatly influenced by the quality of continuing education.

2.2 District health personnel

The term "district health personnel" covers many types of health worker, with different levels of education and competency, from university graduates to traditional health workers. As well as the personnel who directly provide health care and environmental health and support services, higher and middle managers are essential members of the district health team and are prime candidates for continuing education.

One implication of the variable structure of district health teams is that workers in the different health professions and in different sectors will often need to "learn together how to work together" towards their common health or development objectives (7). They will need to learn the skills of cooperating with the community and with members of the public.

In many countries, district health systems depend upon community health workers[1] in both rural and deprived urban areas. They may be members of primary-health-care teams, but often they work alone. Community health workers are usually "members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have a shorter training than other professional workers" (*8*). One task of continuing education is to train higher-level district health personnel to train and supervise community health workers.

3. CONTINUING EDUCATION IN SUPPORT OF DISTRICT HEALTH MANAGEMENT

Continuing education in support of district health systems based on primary health care must take account of the management and financial difficulties that many countries still face in trying to provide complete primary-health-care coverage. In 1987, a WHO Interregional Meeting on Strengthening District Health Systems Based on Primary Health Care acknowledged that great changes had taken place in the organization of health care, but that district health systems were being seriously affected by "weak and lethargic management" (*6*). For example, despite the initially rapid progress of community health worker schemes, the subsequent drop-out rate had been high owing to "lack of support and supervision, exacerbated by chronic shortages of even very basic equipment and medicaments".

District health systems based on primary health care are expected to adhere to the following operational principles:

- decentralization of health-service administration to give a substantial degree of autonomy to the district level, with continuing support from the national and provincial levels;
- equity, ensuring that resources are distributed according to health needs and that every citizen receives adequate health care, including secondary and tertiary care;

[1] In this report the term "community health worker" has the special meaning contained in this paragraph. However, it is recognized that, in many countries, community health workers may be trained in a number of health disciplines and do much more than provide elementary health care.

- accessibility of care that is geographically, financially and culturally within the reach of the whole community;
- emphasis on health promotion and the prevention of illness and disability, which requires a shift in emphasis from curative care focused on the individual and activated by individual demand, to preventive health care for the whole population that anticipates people's needs and uses personal and collective health services to meet them;
- intersectoral action for health development (*9*);
- community involvement (*10*), or the acceptance by individuals and communities that they are responsible for protecting their own health;
- integration of "vertical" health services into the system and the coordination of separate health activities to achieve common goals;
- quality control of various types, including competent and direct supervision.

Continuing education, by improving staff performance, can support the application of these principles as part of district health management. However, health-service administrators should critically assess the functioning of existing services, and may need to devise new methods and procedures, both technical and operational, before they can decide what new competencies will be needed. Continuing education can then be used to teach these new competencies.

The place of continuing education in a district health system is best defined in relation to the "main pillars" of the district health system (*11*), namely:

- organization, planning and management,
- intersectoral action and community involvement,
- financing and allocation of resources,
- development of the human resources of the district.

3.1 Organization, planning and management

Major responsibilities of districts under this heading are:

- managing decentralization,
- establishing, maintaining and using an efficient information system,
- organizing and supporting the district health management system,

—reorienting the role of the district hospital in support of primary health care,
—promoting self-reliance of district health systems,
—"action research".

Managing decentralization

Decentralization gives the district the power to allocate its resources as it sees fit, provided that it complies with national policy. However, functions cannot safely be transferred to the provincial and district levels until personnel have been trained in management skills (*12*), which implies the provision of the necessary continuing-education support. Operating and administrative procedures should be reviewed as necessary, and continuing education used to teach the new or revised practices.

Establishing, maintaining and using an efficient information system

An information system is essential for rational planning, management and evaluation of district services and personnel. Management, administrative and operational personnel—including community health workers—and community representatives therefore need to be trained in data collection and the use of information. The information system should cover all aspects of health development, linking general development issues with primary health care. Community profiles must be established and maintained, and the system should identify groups that are underserved or at risk.

Organizing and supporting the district health management system

Districts need the sustained support of national systems and trained, imaginative and energetic managers. The essential skills of a team leader in a district health system are in leadership, communication, planning, evaluation, epidemiology, supervision and education; they should be practised in a way that promotes equity and efficiency. Usually, even for district management officers trained in public health, these skills and the commitment to equity and efficiency need to be acquired or improved, and continuing education is the principal means of doing this. One of the skills a team leader needs is that of using continuing education for the

management of district health personnel, taking advantage of available educational resources and facilities in the health and development sectors.

Reorienting the role of the district hospital in support of primary health care

District hospitals, and in some cases secondary-level hospitals, are part of district health systems. In practice, however, they are slow to become integrated with the other district services. Conventional attitudes and methods of hospital administration do not favour integration, and conventionally trained hospital staff are often biased in favour of purely curative care. District hospitals are often either underused or bypassed (in favour of other health-care facilities) or used for care which could better be provided in the community. Conventional hospital functions also need strengthening.

Continuing education for hospital staff, with or without the participation of community health personnel, can change their attitudes, thereby increasing people's confidence in district hospitals and resulting in a more balanced mix of hospital and community care. The hospitals should be represented on educational coordinating bodies at district level.

The educational potential of district and secondary-level hospitals is often underused. Medical and nursing staff in hospitals should be offered opportunities and incentives to share their technical knowledge with health-centre workers and other community health staff.

The district health system depends greatly on its referral arrangements. Communication between the hospital and the health centres usually needs to be improved and supported. However, referral procedures must be reviewed before educational or other efforts are made to strengthen the system. An easy-to-use and supportive referral system will consolidate the community health worker's range of health-care skills. Referrals can also be opportunities for learning. Discussion of referred cases, and reports from the health centre or hospital to the community health worker, including discharge reports, can be useful tools for continuing education.

Promoting self-reliance of district health systems

Self-reliance in districts depends on improved management of financial and other resources, the generation of new resources within the district, the integration of vertical health programmes[1] into community-based activities and an intersectoral approach to health development. District health personnel—in hospital services, as well as in environmental health and other non-personal health services—need continuing education if they are to help the community to be more self-reliant. Few districts can be entirely self-reliant, however; the emphasis on the district should not isolate it from the other levels of the health system. Continuing education should reflect the concept of regionalization and referral to higher levels when necessary. Since not all districts have adequate resources, the central authority will often need to redistribute resources among them.

Action research

"Action research"—which can be used as a form of continuing education—is an approach to problem-solving whereby health personnel work in the field to describe a problem and its causes, think of possible solutions using available resources, select and apply one of the solutions, and evaluate its effects. It avoids the problems that can result when health workers apply a solution that has been derived elsewhere. One approach used in several countries is "district team problem-solving". Teams are given, or select, an actual operational problem to solve. They then carry out a series of management tasks, analysing and describing the problem, drawing up a solution and then implementing it.

- In Malaysia, the Director-General of Health Services had recognized that many of the problems reported by district officers could be solved if the work of health personnel was made more effective. In 1986, he called upon the Institute of Public Health to develop an action-research approach to problem-solving for the use of district health teams. The exercise lasted nine months and was designed to be a continuous learning experience.

  The Ministry of Health selected a district health team from each of four states and assigned each team a specific problem.

[1] "Vertical" programmes are "one-disease" control programmes, such as those concerned with malaria, tuberculosis or HIV infection. Very often, they include continuing-education activities dealing exclusively with that disease or health problem.

The Institute of Public Health conducted a nine-day workshop to help the teams to draw up their proposals for solving the problem.
Each team then implemented its solution in a defined area.
Each team evaluated its progress and the problems it had encountered according to criteria decided beforehand.
The teams then came together for a three-day evaluation workshop.

This exercise combined a variety of management tasks of genuine benefit to health services, and included various types of action research. The teams took an active part in the workshops, in which they learned and practised a number of planning and evaluation techniques.

Action research may involve field research and surveys—carried out, for instance, as part of distance education (section 5.5)—which can provide data of use in improving health care. Such projects can improve health workers' skills in deciding what data to collect and how to collect and analyse them.

3.2 Intersectoral action and community involvement

Intersectoral action (*9*) and community involvement (*10*) are two separate but closely related elements of primary health care. Little effort has so far been made to realize the potential of education for mobilizing public and private development sectors and communities, and coordinating their activities in improving their quality of life and the functioning of health-care systems. The fostering of self-reliance in health care for individuals, families and communities depends greatly on the educational and other communication skills of all levels of health worker and other development workers. Continuing education is one means of helping such workers to acquire and use these skills.

In any assessment of the role of continuing education in this area, it is essential to bear in mind the obstacles to intersectoral action and community involvement in district health systems. Health workers at all levels lack training and experience in collaborating with other development workers whose work is connected with health, and joint training will often be needed. Health workers have generally not been given clearly defined roles in community involvement and intersectoral action. They may not have had the opportunity to learn to communicate with community members or to manage community development and intersectoral activities. Often, the central level has not been able to provide the more peripheral levels of the health

system with the finance or training they need to promote community involvement and intersectoral action: there has been no attempt to involve community groups, non-health sector administrators and political leaders, and there is a general lack of understanding of the cultural aspects of health problems and health care.

In all of these areas, continuing education based on analytical, problem-oriented and problem-solving methods, such as action research, can help to find ways of mobilizing the community and non-health sectors.

3.3 Financing and allocation of resources

The effectiveness of personnel may be seriously reduced if financial and other resources are poorly used. District personnel responsible for resource management need constant training to improve their skills. Health managers should learn ways of identifying all kinds of resources in the community, such as those provided by nongovernmental organizations or voluntary bodies, in order to improve the quality of services, coverage and access.

Other skills essential to successful decentralization include the ability to measure and demonstrate the cost-effectiveness of district systems in obtaining and managing district funds. Personnel must be trained to take appropriate decisions in the allocation of the health district's resources. They should be able to correlate information on epidemiology and utilization of health services with data on expenditure.

3.4 Development of human resources

District planning and management involve the development of the human resources of the district health system. Continuing education as part of the management of human resources is usually the direct responsibility of the health administration. Managers should be able to make the best use of the human resources of the district, whether health professionals or voluntary workers, from the health sector or any other sector.

Continuing education can contribute greatly to work satisfaction. It can bring a sense of commitment by imparting high levels of competence and the skills required to perform complex tasks successfully. Since the commitment of health workers depends on motivation and positive attitudes as well as skills, managers must

try to complement continuing education by dealing with the causes of poor motivation and low standards in the working and living environment. They need to be competent in the planning, implementation and evaluation of continuing education (*2*).

The district health system depends on the educational system, including continuing education, for a supply of personnel who can work competently with communities and other sectors to achieve health objectives. Therefore, managers must try to ensure coordination and close cooperation between the health and educational systems. They must be able to evaluate continuing education against criteria relevant to district health systems, and to justify the effort and expense of the continuing-education system.

While health managers will need to be taught the use of continuing education as a management tool as part of their basic training, they will also need to develop these skills further, and will thus require continuing education themselves.

- A group of teachers of public health, of the Association of Schools of Public Health in the European Region, suggested the following areas in which district managers of primary health care would need training:

  - employing continuing education as a management technique for implementing health policy;
  - identifying continuing-education needs and ensuring that they are satisfied;
  - determining the educational needs of primary-health-care practitioners;
  - determining whether health services are meeting the needs of local people and organizing continuing education as necessary to correct deficiencies or change professional performance;
  - acting as the "motor" of continuing education in health matters for health-care teams, the population and other public services related to health.

  In performing these functions, primary-health-care managers would use a range of skills, in communication, interaction with others, team development, group work, community development, operational research, and organization. They would use techniques of "community diagnosis" and data from health information systems.

Most district health managers are not professionally trained for management. Many physicians and nurses are promoted to non-clinical management positions, and the health system must ensure that they are trained for their new responsibilities. This training usually takes place outside the district at regional or national

institutions, since most districts are too small to provide the necessary breadth and intensity of training. All health workers are to some extent managers—of their own time and of drugs, beds, transport, etc.—and they often need educational support for their management tasks. In addition, "specialist" managers, part of whose task is to manage other people's work, have very specific educational needs.

4. FACTORS AFFECTING CONTINUING EDUCATION AT DISTRICT LEVEL

4.1 Organization of continuing education as a system

The system of continuing education for health workers operates within the larger system of health-care planning, delivery and evaluation. Its immediate purpose is to improve and maintain the skills of health personnel. Since it is ultimately concerned with the quality of health care, the quality of the education provided must be high. Components of the system include the determination of educational needs, planning and design of educational activities, assessment of performance before and after training, the preparation and use of learning materials and the evaluation of the educational activities and programmes. An organizational structure is needed to guarantee systematic management and high quality.

Continuing education should be constantly available to district health managers as a strategy for improving and maintaining the performance of all district health personnel as one aspect of staff management and as an integral element of the district health system. It must, therefore, be relevant to health needs and provide for efficient learning and the acquisition of a sufficiently high level of technical competence. This can be done most efficiently if the continuing-education system helps health workers to learn from—and thus improve—their everyday work, rather than only from special educational programmes. Workers should not have to go away for "refresher courses". District managers face the challenge of providing the resources by which work activities may be modified to make them learning activities as well.

The system must be properly maintained and supported. It must be adapted to prevailing constraints on resources, which are often considerable. Such constraints call for pragmatism, clear priorities

and the creative use of appropriate technology and, often, of resources not usually thought of as educational. The system must also take account of human nature and human needs. It can then provide a framework for organization and evaluation of continuing education, and be a powerful tool of the health-care system.

A system of continuing education—like other, similar systems—has four linked elements: input, process, output and outcome.

The *input* consists of the health workers who participate in continuing education, as well as teachers, facilitators, educational materials, and budgetary and other resources. The system should cover all personnel, not just the health professionals. In particular, it should cater for managers of district health systems. In a health-care system based on primary health care, the input will include other development workers and community representatives. Of course, the group changes constantly, and its members will have different learning needs and expectations, according to their functions and their level of responsibility. Another input is the statement of learning needs, derived from a study of health-care objectives, methods and deficiencies and from the needs expressed by the personnel themselves.

The *process* is the organization and functioning of the continuing-education system, including the relationship between its different levels. It covers the planning of training programmes, the provision of competent teachers, the learning environment, the rational use of teaching and learning methods and learning media, logistics and finance, and monitoring and evaluation. This implies, among other things, that health service and educational needs are ascertained, that suitable learning methods and materials are used and that there is provision for assessing learners' progress and helping health workers to apply their improved knowledge and skills, as well as for judging the programme's contribution to the functioning of the district health system.

The *output* consists of the new or improved competencies which district health-care and other personnel acquire from the system.

The *outcome* is the impact of continuing education on the quality of care provided to the population. This is the criterion for the immediate or short-term effectiveness of continuing education; the ultimate criterion is improvement in the health of the population.

A country-wide continuing-education system, like a national health-care system, should be organized at central, regional/provincial and district levels. At the district level, it should be part

of a district health system and be funded accordingly, but with its own budget allocation. Each level should have a particular management responsibility for subsidiary levels, including the periphery of the district system.

Among the responsibilities of the central and intermediate levels should be fostering political will and support, ensuring and allocating budget resources, setting guidelines for educational programmes, coordinating the involvement of national training institutions and professional associations, obtaining learning materials, evaluating educational programmes, arranging for the proper distribution and utilization of staff and material resources, and ensuring a regular flow of information on staff needs and performance from the peripheral to the central levels. The central and intermediate levels should provide "educational referral" services to the districts, permitting district managers and other personnel to move between levels for educational purposes, and to call on the intermediate and central levels for support in handling difficult educational problems.

An effective continuing-education system can be achieved by a series of linked steps:

1. Analysing health problems by a range of methods. This is done by the community, community health workers and other health-care practitioners, and managers of health-care services and continuing-education systems.
2. Establishing acceptable standards for the performance of health-care tasks. Such standards cannot be absolute, and they must be revised from time to time. Standards may be derived empirically, or by comparing the performances of individuals or teams and analysing the reasons for significant discrepancies. These are also way of establishing priorities—deciding which individuals or teams need continuing education most, or which competencies most need upgrading.

    - In Indonesia, health centres are classed as excellent, standard or substandard by comparing their performance with standard criteria. The top centres serve as models and training centres for the rest.

3. Analysing the performance of health-care tasks by comparing actual performance with previously agreed standards or established criteria.

4. Deciding why performance has sometimes failed to match the agreed standards or criteria. It may not be possible to remedy all of the causes of failure by direct educational means.
5. Organizing appropriate education programmes or other training and learning activities to remedy inadequate performance due to educational deficiencies. Inadequate performance may be due to:
   - —a lack of knowledge or ability to solve problems, which must be taken into account in devising the eventual educational solution;
   - —poor management of resources, in which case continuing education should aim to improve management skills and, as necessary, change workers attitudes towards primary-health-care teams;
   - —poor communication with the public, in which case continuing education must be designed to help workers who have contact with the public to acquire communication skills or improve them;
   - —remoteness and difficulty of access to educational facilities or resources, in which case distance education may be more appropriate.
6. Evaluating the educational activity after an agreed interval and against agreed criteria, by examining the performance of the target groups and, if possible, the effect on the health problems addressed by the educational activity.
7. Repeating the process if the objective has not been achieved.

This systematic approach requires the active involvement of the learners at every stage, as participants rather than passive recipients. It cannot be a self-regulating system that functions in a clear-cut manner. These steps, including performance analysis, are carried out by district health service staff and managers. Adequate levels of performance and opportunities for improvement can be determined by means of a team problem-solving approach, as described on page 15. The application and evaluation of the team's solutions can lead to the generation of ideas and the feasibility-testing necessary to establish new procedures, which could then be extended throughout the system and thus help to improve performance.

This approach implies that continuing education has not been effective unless the desired level or quality of health-care performance has been achieved. The emphasis in education must be on quality rather than quantity. Quality is not the same as

sophistication; it is concerned with ensuring compliance with the criteria of relevance, efficiency, acquisition of the required level of technical competence and effectiveness. The quality of education will affect the quality of health care. However, health-system managers must avoid trying to solve non-educational problems by educational means; inadequate performance, poor motivation and the persistence of health problems may be caused by factors other than lack of knowledge and skills in the personnel.

4.2 Political will and financial commitment

Political leaders, decision-makers and administrative heads of ministries must understand the need for continuing education in a health-care system. It is not a luxury which only wealthy countries can afford. Health personnel are everywhere a precious and expensively produced resource, which needs to be systematically managed and supported to maintain its efficiency. Health-service planners and managers who report to political leaders need to understand how a system of continuing education should work. District managers should ensure that the effectiveness of continuing education is constantly monitored in the light of health-care needs, and that political leaders are kept aware of its proven value.

There are various possible indicators of political will:

- a national situation analysis giving the precise educational needs of target groups in line with the requirements of district health systems based on primary health care;
- an officially approved plan (if possible integrated into a national development plan) for establishing a continuing-education system, outlining its expected outcomes, the activities to be carried out and the human, technical, logistic and financial resources needed to support these activities;
- the allocation of the financial and other resources which the system needs;
- the assignment of continuing-education responsibilities to new or existing institutions, organizations, areas and personnel;
- the recognition that continuing education can be integrated into normal health work and that health workers should take part in continuing education during working hours;
- a law or decree that requires the health or education authority to introduce a system of continuing education.

- In rural New South Wales, Australia, a recent crisis in medical service delivery made it politically necessary to improve conditions for rural general practitioners. The improvements included the establishment of a rural education service to provide support for postgraduate trainees seeking to enter rural practice and a variety of strategies to improve continuing-education opportunities for established practitioners. A director has been appointed, with a team of six regional coordinators throughout the state who meet periodically.
- In Mexico, the political commitment to continuing education has been shown by additional support for the national School of Public Health and the creation of the Centre for Training and Development. This is run directly by the Ministry of Health and forms part of a training and development system with similar units set up by other health-care providers, especially social security institutions and state governments.
- In Spain, guidelines for the new primary-health-care teams provide for continuing education – mostly in the form of team clinical sessions, case-studies, literature reviews and visits from specialists – as a normal part of their activities. There is also a special budget for continuing education for primary health care.
- In the Union of Soviet Socialist Republics, the Ministry of Health requires all physicians, including specialists, to attend formal programmes of continuing education at regional postgraduate institutions every five years.
- Some states of the United States of America will not renew a physician's annual licence to practise unless he or she has received a specified number of hours of continuing education. Although this requirement is enforced by the state licensing authorities, the responsibility for monitoring and improving access to continuing medical education lies with state and national medical associations. This action was prompted by revelations of malpractice and incompetence, although there has not yet been any convincing evidence that continuing education has any measurable effect on either of these problems.

4.3 Integrated development of health systems and health personnel

Human resources planning, education and management should be integrated with health-system development. This requirement applies directly to continuing education in relation to the development of district health systems.

In the past, continuing education made excessive use of arbitrarily designed courses, lectures, meetings and other formal activities which were largely separate from, and often not particularly relevant to, health-service problems and the circumstances in which health personnel work. The present approach to continuing education is

based on health-care requirements. Continuing education should be woven into the actual practice of district health personnel such that training is directly related to the work to be done or the problem to be solved, and everyday tasks, in turn, require the health worker to apply and develop the competencies acquired from training. This is the essence of the team problem-solving approach to health-service development, which combines regular in-service training workshops with constant support and supervision.

Resources derived from health services can be used to integrate education into those services. One such resource can be supervisory skill. Data obtained from the monitoring and evaluation of health programmes are another resource: health workers must be able to see what is wrong with what they are doing, recognize and correct faulty procedures and learn from their mistakes. Epidemiological information can also be useful, and in some countries health workers can now obtain information from computers, which enable them to learn "on the job". Consultants are another resource, and a health worker faced with a difficult problem needs ways of obtaining advice from them.

4.4 Educational needs of individual health workers and teams

Health workers may need to improve their competencies or learn new ones in order to deal with new health programmes or programme elements (e.g., a new procedure or drug) or if their performance is inadequate. They also need to be kept emotionally and intellectually motivated in their work, and often feel a need to improve or extend their own performance or knowledge.

In view of their responsibilities for health care, district health teams should, logically, also be responsible for determining their own educational needs to a great extent. This requires the team to assess its own competence and performance. Teachers or organizers of educational programmes must guard against the tendency to dictate what a district health team should learn without consulting it.

District managers should be able to judge the adequacy of a health team's definition of and approach to an educational need or health problem. Health teams can be trained to determine their own educational needs, design appropriate training or independent learning activities and assess their own competence and performance.

Research may be needed to ascertain the true nature of a problem, the best combination of methods and personnel, either inside or outside the health sector, to ease or resolve it, and the corresponding requirements for continuing education. Such research could be undertaken jointly by educational institutions and the health services with the participation of health teams, who would learn the methods of such research by taking part in it.

Reliable information is needed to show the points in the chain of causation of a health problem where education can have a useful effect. Epidemiological and sociological data, in particular, draw attention to causes or aspects of problems that a health team can deal with in ways other than ordinary medical or nursing care, for which continuing education may be appropriate.

The community's view of a problem or ways of solving it may call for skills in which health teams have not been trained; this is one respect in which the community may help to determine a team's educational needs. One function of continuing education may be to train health teams in ways of encouraging the community to take action on health problems and supporting it in such action.

4.5 Target groups and priorities

Health workers who are expected to deal with a particular health problem together will generally receive continuing education together. The advantages of training workers from different professions in teams, rather than in separate professional categories, are considerable (7). As there will always be more problems and groups needing training than can be dealt with at one time, district managers will have to set priorities.

For the more formal continuing-education programmes, the teams or individuals participating should be given plenty of advance warning and advised how to prepare for them. Their own and their supervisors' views should be obtained on their work performance and the difficulties they face.

Candidates for continuing education may be designated on the grounds of health-service needs, for example to train different categories of personnel to work efficiently as a team, to introduce a new technique, service or strategy, or to focus on a new or widespread health problem. They may also be designated on the grounds of special community needs, for example to guarantee equal access and an adequate standard of service for underserved

communities or groups, or for culturally isolated groups with particular needs.

- In Australia, Aboriginal communities have special medical, environmental and social needs, and their primary health workers face the particular problem of geographical and professional isolation. The medical practitioners have no fixed career path and seldom stay with the communities for long. Continuing education can be a "lifeline" for these health workers, but it is vital to involve the Aboriginal communities in its planning and implementation. It has been recognized that Aboriginal health workers are the best people to provide basic health-care services for Aboriginal communities, and initial training and continuing education are being developed to achieve this end.
- Continuing-education programmes sponsored by the Government of Lesotho bring the country's nurse-clinicians together every year for intensive one-week sessions which are planned jointly by the Ministry of Health and the nurse-clinicians themselves and are closely related to health-system needs.

4.6 Learners' educational levels and circumstances

Conventionally, those who offer continuing or other forms of education expect learners to satisfy certain educational requirements, for example for selection for a formal course in preparation for new responsibilities. In some cases, candidates may need remedial training if their previous education has not equipped them to benefit from the proposed programme.

In district health services, where personnel may lack certain competencies needed to provide a service or solve a community health problem, the educational system should determine the level of education and skill of the health workers or primary-health-care teams, and adapt the training to suit it. Some health personnel lack the basic literacy and numeracy skills to enable them to benefit from certain kinds of education, and may need prior remedial training in these respects.

Continuing education must take special note of learners' characteristics and circumstances. Adults who wish to improve their competencies and their performance often need help to acquire the skills of independent learning, define their learning objectives, obtain the necessary learning materials and assess their own progress. One of the roles of continuing education is to help them become efficient independent learners and to provide constant learning support. A

capacity for independent learning is a skill to be expected of every health professional. Health-care practitioners who work alone or far from training institutions or supervisory bodies need particular assistance with learning objectives, choice of learning methods and assessment of needs and progress (see discussion of distance education, section 5.5). Many district health personnel in developing countries are in this position.

4.7 Involvement of learners in the planning and development of educational activities

One of the requirements for an effective system for lifelong education is the sustained interest and motivation of those for whom the system is designed. If health workers are to become and remain interested in continuing education, they must be made to feel that the programmes take their professional and personal concerns into account. It is useful to consult professional associations where this is feasible, as well as the professionals themselves. Health workers should help to set their learning objectives and determine how, and over what period, they should attain them. They should know what they are expected to gain from each of the learning activities in the programme and how the programme will enable them to deliver the necessary kind and quality of health services. The educational objectives should be expressed in a way which makes this clear to both teachers and learners. Tailor-made programmes, drawn up after consultations with the health workers concerned, their supervisors and the communities they serve, are likely to be more relevant and better accepted than those that are drawn up arbitrarily.

- The University of New Mexico School of Medicine, United States of America, relies greatly on an assessment of the stated educational needs of health-care providers in New Mexico to determine the scope of its continuing-education programmes. At regular intervals, health workers are asked to indicate the subjects that would interest them most, and to state their preferred length, frequency and location of educational activities. An even more important factor is the learners' preferred learning style. As a result, the University has established a short residency programme and a series of symposia in a variety of formats, including skills workshops, clinical problem-solving sessions, experience-sharing sessions, multidisciplinary approaches to common problems, and lectures. This approach has been very successful, as shown by

the favourable opinions expressed by the participants and the steadily increasing numbers taking part.

- In New South Wales, Australia, a random sample of general practitioners completed a questionnaire on knowledge, attitudes and skills relevant to screening for cervical cancer in 1988. General practitioners attending various educational activities were asked to complete a modified version of the same questionnaire. The responses were put before a continuing-education planning committee. A booklet was then produced, including detailed information on cervical cancer screening and answers to questions raised by respondents to the questionnaire. This booklet was sent to every general practitioner in the state prior to a public health campaign to increase knowledge in the community about cervical cancer screening. This project involved the New South Wales Cancer Council, the Primary Care Research Unit at the University of Newcastle, New South Wales and the Royal Australian College of General Practitioners.

Health workers should be encouraged to use all relevant opportunities for learning available to them, as well as to set up programmes of their own, and to organize themselves accordingly. Their efforts should be supported and recognized, normally by the use of a system of incentives or rewards, which should be part of a general reward structure in human-resources management.

Rewards may take different forms, including:

- the satisfaction of improving skills and knowledge, and thus competence for professional work and self-confidence;
- the employer's recognition of the health worker's competence, which may bring the worker new responsibilities and provide an additional source of income;
- the recognition of various modules or programmes as credits both to move up the career scale and for higher degrees or advanced certificates (this is especially useful for former medical and nursing staff who have become professional managers and who need intermittent and modular educational programmes);
- financial assistance for participation in educational activities outside duty hours;
- support from the health system in the application of new knowledge and skills to real health problems;
- a certificate on successful completion of a programme, which would allow membership of a professional association and give the holder priority for attending scientific meetings at home or abroad;

— creation of a continuing-education association, which would organize social and leisure activities for members and their families.

- In Colombia provision is being made for accreditation of continuing-education programmes. Competence criteria that institutions and programmes must satisfy are being defined, and a credits system is being established. The Ministry of Health has established a working group to revise career development patterns in the public sector of the health system. It will determine the continuing-education credits required for advancement in every health occupation.
- In Israel continuing-education programmes for nurses are examined by a national board and allowed to award credits if they meet certain criteria. These credits are cumulative; nurses who have earned a certain number of them are moved up their pay scale.

Health authorities and professional associations may decide to impose sanctions, such as refusing to renew a certificate or licence, if health workers do not take part in continuing-education programmes. They may also insist that participation in such programmes is included in job descriptions.

4.8 Problem-solving, learner-oriented educational methods

Problem-solving learning is a way of learning a systematic approach to solving problems, both familiar and unfamiliar. The learner learns from the process of working, individually or in a group, towards the understanding or resolution of a problem, rather than from merely memorizing solutions. Problem-solving depends on problem-based learning. A problem-based curriculum presents students with a range of problems representative of those they are likely to encounter in their professional work. However, in the form in which it is often used, problem-based teaching or learning does not necessarily involve problem-solving.

Learner-oriented or learning-oriented methods differ from those that are teacher-centred or teaching-centred, being designed to maximize learning and learners' involvement rather than the roles of the dominant teacher and the passive student. This educational approach is central to the success of continuing education, whether intended to help health workers improve the management of health problems or acquire knowledge for its own sake. A sensitive approach is needed to avoid alienation and negative attitudes in

some health workers and to encourage them to participate fully. Continuing education should include training in efficient learning methods and the practical application of what has been learned. This can best be done when learning is based on actually practising the health-care skills which are to be acquired or improved. It can be particularly valuable for learners to take part in a demonstration project or attend a centre where the required competencies are being practised.

Learner-oriented education implies that health personnel play a part in planning and implementing their own continuing-education programmes and activities. They should be encouraged to collect and present information derived from their own experience. The continuing-education service may advise and support them in this. Such educational initiatives may be undertaken even in countries with limited resources for continuing education, and where outreach services and supervisory mechanisms may be weak, by means of distance education (see section 5.5). The imaginative use of distance education and other aids to independent learning encourages self-reliance in education and can motivate health personnel to maintain satisfactory levels of performance of health-care tasks.

- The selection of the appropriate educational approach has generally been neglected in continuing medical education. One highly successful answer to this problem involved the promotion of self-directed learning by physicians in a project run by the Development and Demonstration Center in Continuing Education for Health Professionals at the University of Southern California School of Medicine, United States of America.

  The approach was very different from traditional classroom exercises, its central feature being the establishment of a "contract" or learning plan for each participant. A key role was played by the "education broker", who visited small groups of physicians and, through discussion, helped each one to assess his/her personal needs. Each contract included an overall goal, specific learning objectives, learning strategies and information sources, and indicated the assessment methods, the evidence of achievement which each participant would be expected to provide and a deadline for completion. In other words, all the programmes were individually designed to suit the learners' needs, objectives and preferred style of learning. The education broker supplied the educational materials, ranging from a collection of articles on a given topic, through interactive learning programmes, to participation in formal educational programmes. The success of the programme is a significant testimony to the value of individualized, self-directed learning.

4.9 Educational resource persons

In district health systems many, probably most, organizers of continuing-education activities will themselves be health workers. Some may be senior medical or nursing personnel and others the more experienced or better educated community health workers; some may come from outside the health or education sector. All health workers have the potential both to teach and to learn from their peers. One of the tasks of a continuing-education system is to train and support these different groups in the skills of planning and conducting educational activities satisfactorily. As a general rule, they will need the guidance of skilled educational resource persons.

4.10 Production, use and evaluation of learning materials

Ideally, learning materials (including manuals, individual-study modules, case-studies, handouts, posters, audiovisual materials, slides, films, simulation models and demonstration materials) should be designed and produced in the country, even in the district, where continuing education takes place. Learning materials should be closely related to the expected educational outcomes. In countries where there are special projects to develop national health learning materials, the projects can be linked with the continuing-education system.

Professional skills will be needed to produce and adapt learning materials, as well as adequate facilities and equipment. The reproduction of learning materials by simple techniques, such as duplicating, and the preparation of demonstration materials using local resources should be encouraged. The nature and quantity of learning materials that may be produced will vary with the level of socioeconomic development of the country concerned and the size and resources of the district.

Various organizations may offer to assist district health managers with the production and dissemination of scientific and technical information. Managers must be able to assess these offers carefully, ensuring that the materials are educationally sound and suit the specific needs of health workers. National centres for continuing education should be in a position to screen such materials and modify or adapt them to local conditions. They should also be able to lay down specifications for materials before they are produced.

If learning materials are to be produced from scratch, they must first be tested with groups of intended users to ensure that they are

appropriate (clarity of content, educational level, etc.). Design and quality of product are also important features in motivating learners to use such materials.

4.11 Supervision of health workers and performance assessment

Supervision should be an integral part of a continuing-education system. Supervisors therefore need to be trained for educational functions, and should be able to help learners to acquire or improve skills in a satisfying and constructive way. Supervisors should keep personnel informed about policy decisions and programme orientation. Supervision should not be mistaken for inspection, or associated with the threat of penalties for unsatisfactory work.

In one possible approach, supervision goes unnoticed as supervisors and staff work together in such activities as district team problem-solving and the implementation and assessment of new ideas for providing services. Another approach is for supervisors themselves to take part in providing health services, which gives them an opportunity to provide on-the-spot guidance for health workers and to assess their performance.

- In the Islamic Republic of Iran, primary health care in rural areas is based upon the "health house". Each has at least one female and one male community health worker. Their duties overlap considerably, but the female worker is mainly responsible for the care of mothers. She supervises them to ensure hygiene, and generally promotes good health practices. The community health workers are selected from the villages in which the health houses are located, and they are trained in a small town or large village not far away. Training lasts for two years and is organized as a series of blocks, with spells of work in the training school alternating with practical work at the health house in the worker's home village.

  After their training, the community health workers continue to be supervised by their teachers from the training school, who visit them at least once a week. Both the supervisor and the community health workers see this supervision primarily as an educational activity, although the supervisor also checks that work is proceeding correctly, that all the required duties are being performed and that proper standards are being maintained. The workers carry on learning throughout their basic training and beyond, so that they become progressively more effective. The system works well because the community health workers are trained in fairly small groups, not far from their homes, and form a close personal relationship with their supervisors.

Where possible, health workers' performance should be continuously assessed. Workers should be told what competencies are to be assessed, and on what criteria, so that they may judge whether they are working satisfactorily and identify their weak points. Good personnel management involves the drawing up of sound job descriptions, including clear and agreed objectives and performance indicators. The supervisor's task is to decide, with the health workers, whether they possess the required competencies to the required degree, and to provide them with immediate feedback. Well-managed supervision, based on a cooperative and constructive assessment of the worker's performance, can be the most effective and stable form of continuing education. Supervisors must, in their turn, be monitored and receive continuing-education support in order to maintain their supervisory and educational skills. Supervision should not be restricted to clinical performance; it is also concerned with managerial performance. An assessment by a supervisor is essential for ascertaining educational needs.

- In an in-service training programme for community health nurses in Canada, the learners are fully involved in their own assessment by means of individual meetings at regular intervals during every training module. During their practical training, students receive constructive criticism and support from their practical assignment supervisors. Their work is evaluated by means of written tests, performance-assessment checklists and written reports of practical assignments.
- In Mexico, the Health Ministry's Office of Education in Health, which promotes and regulates educational activities for professional and technical staff, has developed a detailed model of "training supervision", directed at primary-health-care practitioners. The four stages of supervision form a continuous cycle: in-service supervision of practice, ascertainment of training needs, selection and application of training strategies, and evaluation of the results (again through in-service supervision).

4.12 Evaluation of the continuing-education system

The evaluation of a continuing-education system should consider each of the three components: "continuing", "education" and "system". For each, the crucial questions are *what* to evaluate and *how* to evaluate it.

In order to judge the *continuity* of education, the following aspects must be considered:

— *Planning.* Are short-term, medium-term, and long-term goals clearly expressed and translated into a programme? Are health workers able to comment on the relevance of educational programmes to their work or careers?
— *Commitment and communication.* Are those responsible for continuing education at different levels of the health and educational systems committed to working together? Are their different responsibilities well laid out and made clear to all concerned? Are leadership responsibilities clear and well carried out?
— *Logistics.* Are there adequate resources (equipment, transport, premises, etc.) to support continuing-education programmes? Are they equitably distributed throughout the country? Do the more deprived areas or communities get special attention?
— *Management.* Do all the responsible officials at the central level, which gives general guidance and allocates resources, and at district level, where the education takes place, know what their tasks are and how they should coordinate with others? Is there a systematic way to guarantee that educational activities will benefit the district health system and ensure that those health workers who need education will receive it? Are the opportunities for continuing education equitably distributed?
— *Feedback.* Do basic or undergraduate educational institutions receive feedback from continuing education? Do learners receive constructive feedback from their supervisors and managers?

The evaluation of the *educational* aspect of the system should take account of the following areas:

— *Justification.* Have the tasks of the health workers been defined and their educational needs ascertained?
— *Learning objectives.* Have the learning objectives for the different categories of health personnel and for multiprofessional teams been clearly defined in relation to needs of the district health system?
— *Learning activities.* Have learning activities and opportunities been organized in order to achieve the learning objectives? Have teachers or facilitators been selected and prepared, educational settings organized and learning materials designed and developed?
— *Relevance.* Are the educational programmes and activities relevant to health care for the community and the educational

needs of health workers? Is the performance of teachers, supervisors and learners in keeping with programme objectives?
— *Outcome*. Have the planned changes been achieved? Has the educational component become a part of health care? Is there any apparent effect on health services and health-care delivery?

The evaluation of continuing education as a *system* takes account of the elements described in section 4.1 and the relationships between them. They include:

— *Input*. Is there a sustained political commitment to maintaining or improving the competence of health staff for implementing national health policies and strategies? Are the educational resources (teachers, supervisors, facilities, equipment, etc.) sufficient in both quantity and quality to achieve the objectives of the system? Is the continuing-education budget part of the annual health budget of the district? Has a national coordinating body been created? Are its membership and operation satisfactory?
— *Process*. Does the system function in relation to the health-care services in the systematic manner outlined on pages 19–23? Are the relationships between the different levels of the system clearly defined? Does the relationship between the national, provincial and district levels allow the system as a whole to function adequately? Does the system allow educational problems and needs to be transferred easily between levels? Does the district level receive adequate support from the intermediate and central levels?
— *Output*. Are the competencies of district health personnel increasing in the health system's main areas of priority?
— *Outcome (or impact)*. Is the system achieving its goals in relation to the functioning of the district health system and the health needs of the community?

5. PLANNING CONTINUING EDUCATION IN THE DISTRICT HEALTH SYSTEM

Few countries have well-established systems by which health workers, particularly those employed in district health systems, can be offered continuous and appropriate opportunities to improve their work skills or to satisfy their personal development needs. In this respect, health-care systems are unlike many industrial

enterprises, which ensure continuous training for all levels of staff in the interests of increased efficiency.

One way for authorities to decide what should be included in a continuing-education system, and how it should be organized and managed, is to consider the following questions:

—Why should there be a system of continuing education?
—What is to be gained from continuing education?
—Who should be responsible?
—How may people be motivated to make the system work?
—Where should continuing education take place?
—How may continuing education be maintained and funded?

5.1 Why should there be a system of continuing education?

There are strong arguments for a national system of continuing education. Knowledge and technical applications change rapidly and dramatically. (The recent emergence of the AIDS pandemic is an example.) Workers' skills must consequently be improved or changed to maintain their competence.

Human resources are so scarce in many places, and so expensive everywhere, that it is worth devoting resources to improving or maintaining their quality by means of continuing education and skilled management. Standards of performance and quality of care depend on health workers' motivation, morale and skills, as well as on equipment and facilities. Continuing education can both strengthen motivation and sustain morale. With sufficient motivation, people can make the most of scarce resources. However, high morale cannot compensate for a lack of essential equipment and, while continuing education can boost morale, governments and communities cannot avoid the responsibility of providing material support and adequate management systems merely by providing some resources for continuing education. Resource allocation is currently very inefficient in many countries.

The performance of district health personnel needs to be continuously monitored and improved if strategies for health for all are to be implemented. There is little evidence that policy-makers appreciate the value of continuing education, as shown by the low budgetary allocations it receives. Political leaders may be encouraged to support systems of continuing education by evidence of the inability of health workers to handle common and severe

health problems or the well-known effects of poor morale on the recruitment, retention and performance of health workers.

Another compelling factor may be complaints from the public about the quality of services, the methods used and cases of apparent inefficiency and negligence among health workers. Evidence of a waste of energy and resources caused by a shortage of suitably trained health workers can also be convincing. However, the Expert Committee pointed out that continuing education merely supports the health-care system and stressed that education alone cannot compensate for inadequate back-up and poorly designed and managed services.

5.2 What is to be gained from continuing education?

Health workers at all levels can be expected to gain from continuing education in terms of improved performance, and thereby to support the functioning of the district health system, with consequent benefits for the delivery of health care.

Decentralization and the review of responsibilities in health planning and management mean that district health managers must acquire new, and strengthen existing, competencies. These include monitoring and assessing the population's state of health, setting priorities for health activities, organizing action programmes in health development, working in health teams, collaborating with other sectors in socioeconomic development, and encouraging local authorities and the public to become their partners in health development.

Health personnel need to be competent to adopt, or advise others on, the most efficient ways of solving new health problems. They must be well informed about, and skilled in, ways of encouraging individuals and the community to be self-reliant in health protection. They should be able to judge the validity of the information they receive. They should be aware of the extent to which people can afford new types of treatment and accept new concepts of health care and new technological developments.

The problems of the community may be relatively simple and respond to direct intervention from the health sector, or they may be complex and require considerable community and intersectoral action. Health workers should be able to understand the complex environmental and social causes of disease and poor health in individuals and communities, how these factors cause disease and

how they can be dealt with in order to restore and maintain health. They should not only be capable of approaching problems in this way, but should also be prepared to change established practices in order to do so.

The challenge for health management and educational bodies is not merely to keep health professionals up to date with the latest biomedical developments, but rather to equip them, and help them to equip themselves, to implement national health strategies. This involves critical thinking, problem-solving, action research—all ways in which health workers become personally and actively involved as individuals, teams and groups in "learning by doing" and learning from one another's experience.

5.3 Who should be responsible?

Normally, the central and district levels of health systems will share responsibility for continuing education. The central level must support the district system without undermining the latter's responsibility for managing its own educational activities.

Both education and health services should be represented on the national body responsible for continuing education, as well as on district management bodies, in order to reflect the interests and responsibilities of both sectors and permit close coordination. The national body may delegate some of its functions to district committees.

At the district level, continuing education should be organized and managed as part of the district health system, in the charge of a member of the district health management team. This person will keep in touch with the national continuing-education system and, with supervisors and the health workers themselves, assess the educational needs of the health workers and determine how, when and where education can help. Supervisors or others could be trained for this function.

In some districts, health managers may make use of the expertise and resources of educational institutions for health and other development personnel at relatively little expense, asking them to propose methods and share materials, staff and certain other resources. This will make them aware of the educational needs of district health personnel and they can use the opportunity to make sure that their own educational programmes are relevant to the needs of communities and health services. When, as in some

countries, universities are jointly responsible with the health sector for those health services on which training programmes are based, they can make a valuable contribution to continuing education.

Schools of public health and similar institutions play a crucial role, albeit mainly at a national level, as the principal source of management training for district health managers. District health systems can also provide suitable management training, but schools of public health will need to be strengthened before they can provide the necessary support.

Associations of health professionals can help health and training institutions to organize and conduct educational programmes. However, in such cases, health administrators, who have the management responsibility for health personnel, must indicate what they need from these associations, allocate a budget and provide the essential logistic support, since professional associations are not usually equipped to undertake these responsibilities.

There are divided opinions about whether communities can take some responsibility for continuing education and, if so, how they should go about it; this matter urgently requires further study. Continuing education in support of district health systems nevertheless cannot be separated from community involvement, intersectoral action for health or appropriate technology for health — three essential elements of primary health care. Educational needs cannot be ascertained without some consultation with communities, and learning "on the job" requires their cooperation. The impact of continuing education on the quality of primary health care cannot be evaluated without their involvement. Systems of continuing education and district health management need to develop a way of involving the community, especially in the continuing education of community health workers, who are — or should be — directly accountable to their communities (see section 3.2).

It is advisable for countries to create a "critical mass" of people who have been trained in management skills. Sometimes people who have attended educational courses away from their home district feel that they are struggling single-handedly to change the system and that their advice is misunderstood and ignored. This can be avoided by training more managers, so that their collective action can be a source of planned organizational change.

5.4 How may people be motivated to make the system work?

District management committees must ensure that educational activities focus on health problems and learners' needs. They should state explicitly what the health workers are expected to gain from these activities, and how the health activity or service concerned is expected to improve. They should try to ensure that technical guidance is provided by qualified staff at all stages. Teachers should ensure that the planned learning is achieved by practising the required skills, and that the health workers can apply what they have learned to the solution of health-care problems.

Teachers and supervisors usually need to be trained in the educational methods that will enable health workers to acquire skills and knowledge from practice and to learn to apply them to new situations. This is particularly true when training members of different health professions and non-health sectors to work as a team. Staff from professional health schools (e.g. nursing, medical and public health schools) may be available to help at district level.

Health personnel will find it hard to accept the discipline of continuing education if it comes on top of their daily work. Education should, therefore, be integrated with their normal health-care duties. The most important task of managers and supervisors of continuing education is to organize and conduct it in such a way that health workers find it relevant to their work, as well as stimulating, satisfying and productive.

As far as possible, moderators or facilitators should use actual district problems and issues as a basis for learning. Teachers who visit the district to assist with educational activities should be familiar with the circumstances in which the health workers are to apply what they learn. Visiting teachers should not be expected to design the learning programme, except in consultation with the district management group and health workers themselves.

The development of suitable learning materials, aimed at specific groups of users, within the continuing-education system greatly facilitates local study by health workers.

The skilful use of incentives is part of human resource management. The most useful incentives are likely to be those that increase professional satisfaction. Incentives which allow workers to use their new knowledge are preferable to incentives which merely encourage them to attend courses. Programme evaluations should

assess the participants' motivation for continuing education and the effectiveness of the reward mechanisms.

Various means may be used to stimulate the active and creative participation of continuing-education organizers, teachers or supervisors. They include:

- payment or other forms of compensation (e.g. additional opportunities for training) for teachers who work outside official hours and supervise learners;
- the publication of appropriate printed and audiovisual learning materials produced by teachers;
- prizes for programmes that satisfy certain criteria;
- the avoidance of unnecessary bureaucracy.

Incentives for health workers may take various forms, as discussed in section 4.7.

Of course, continuing education cannot be expected to compensate for disincentives such as late payment of salaries, poor working and living conditions and poor opportunities for career advancement. District managers must prevent or remove such disincentives.

5.5 Where should continuing education take place?

As a general rule, continuing education in support of district health systems should take place in the district concerned, in association with work. For certain purposes, however, staff members, especially managers, will need to be trained away from the district.

Educational decisions are often made at the central level, with no attempt to discover who needs to be educated, what their educational needs are and whether education has improved the quality of health care. Health workers should be given the opportunity to learn in the workplace where, using existing materials and facilities, they can acquire or improve the necessary skills. Their training should equip them to learn from their everyday work and especially from their efforts to deal with complex health and development problems as a team (see section 3.1). They should not normally be expected to study outside their place of work. However, various activities may be organized outside the district, for example in other districts that may be models in various respects, and that provide the opportunity for interaction with other health workers.

For certain training purposes, a number of districts can work together.

District health systems at all levels of development offer many such opportunities. Community profiles and information systems, the experience of supervisors and health workers and the needs expressed by the community itself will indicate the priority problems. Besides systematic educational support, such as the Malaysian experiment described on page 15, the district health committee can organize continuing education as part of an annual plan for health centres or district hospitals, for example in the context of:

- surveillance and care of pregnant women, at a rural clinic for maternal and child health;
- stock-keeping and proper utilization of drugs and pharmaceutical products at the pharmacy of the district hospital or health centre;
- community participation in health development, making use of the premises of a voluntary association;
- quality of health-care services provided in a hospital ward or outpatient clinic.

- The ministers of health of six countries of Central America, at their annual meeting in 1987, adopted a resolution supporting the existing continuing-education programmes as a way of implementing their national strategies for health for all. They specifically recommended that education for health workers should be organized as a permanent and multidisciplinary process in which workers learn from the normal, daily work of the health services.
- In Mexico, the National Institute of Public Health has recently developed and begun to test the cost-effectiveness of "advanced primary health care centres", an intermediate level in the district health system between conventional health centres and general hospitals. These centres, it is proposed, will be the focus of continuing-education programmes at district level.
- The WHO Collaborating Centre for Primary Health Care Nursing at Maribor, Yugoslavia, has designed models of various aspects of primary health care: family nursing care, home-based care, long-term care, and early detection of congenital diseases. For training purposes, district health staff become part of health-care teams based on these models for several days.

Individual study and *distance education* are two aspects of continuing education in which the national level can support the district system. In order to help health personnel to study by themselves, the continuing-education coordinator will need to become expert in the use of communication media for educational

purposes. Printed media will be particularly important in less developed areas, but radio, television, telephone, video and computers will also be used to a greater or lesser extent, according to the circumstances and resources of the district and the country as a whole. Satellite broadcasts are becoming an important medium of education in a growing number of countries.

Distance education is a method that can reduce costs and extend coverage. However, it should be used selectively since it usually originates outside the district and comes down "from the top". Managers of distance-education institutions should distinguish between media suitable for the national level and those suitable for district systems, and will need to be trained and supported to produce appropriate instructional materials (*13*).

In distance education, the health worker receives study materials, support and guidance from tutors some way away. The techniques used depend upon whether learners are to study alone or in small groups. Learning materials range from simple reading and writing materials, which may be used in even the poorest countries, to sophisticated audiovisual or electronic materials. Health workers select the materials and use them when and where they choose. The programme is carefully planned, and the learner receives advice and assistance about learning methods. The teacher or tutor reviews the learner's work and prescribes remedial work if necessary.

The continuing-education system may use distance education to provide health workers with assessment exercises, by which they can judge their own progress and decide on their remaining educational needs. However, provision may also be made for periodic evaluation by means of direct observation or supervision of performance. Communication between learner and tutor may be by post, messenger, radio and television, or telephone. Distance education may form part of field projects and action research.

- In Canada, several universities have established "telemedicine" programmes (using telecommunications technology) to provide opportunities for distance education for physicians and other health professionals in outlying regions. The Canadian Workplace Automation Research Center of the Federal Department of Communications has developed expertise in telemedicine, and undertakes research and development with universities. Canadian universities are also experimenting with the provision of continuing-education courses to health professionals in developing countries by means of satellite broadcasts.

- The Wellcome Tropical Institute in London, England is collaborating with Ethiopia, Ghana, Kenya, the United Republic of Tanzania and Zimbabwe to develop distance-education techniques for the training of district medical officers and medical assistants (*14*).
- The telephone can be used in a number of ways. The Centre for Medical Education, Dundee, Scotland has used it to make available, through a telephone-answering machine, daily two-to-three minute recordings related to a current distance-education programme. At the end of each message, the listener can record any questions he or she might have on the topic for the day. These questions are later answered in writing. A second use of the telephone is to provide direct communication between the teacher and the student. A third use is telephone conferencing, where a group of students are linked with a tutor for a discussion on the selected topic (*15*).
- In Zimbabwe, the course for the Health Teachers' Diploma provides for a substantial amount of distance education. The Government's Health Teachers' (Training) Regulations oblige the student to carry out "not less than 36 weeks of distance education and teaching practice". The distance-education component has 10 modules designed "to aid correlation of theory to practice in the working situation; and to increase and improve knowledge, attitudes and skills in order to continue professional and self development, resulting in competency" (Statutory Instrument, 1988).

5.6 How may continuing education be maintained and funded?

It may not be difficult for a health district to begin a continuing-education programme, but it is often not easy to sustain it. Support from the central level can be of great assistance in the establishment and early development of a district continuing-education system. Such support may take the form of seed money, technical and administrative guidance or supervision. The reasons why some continuing-education programmes fail may be found at the central as well as the district level.

At the central level, such reasons may be: lack of programme-planning capacity; failure to win over national decision-makers and support district committees adequately; scarcity of financial, material and technical resources; and, above all, a defective strategy for health for all or the lack of or failure to implement a national policy for health personnel development.

At the district level, the reasons may be: failure to find the right people for the district committees; low participation due to lack of

incentives; uninviting content or methods of educational activities; insufficient motivation to change; and relative satisfaction with the *status quo*.

When a continuing-education system for health personnel is established by law, the law should indicate the specific responsibilities of the national continuing-education committee and district committees, in such a way that the responsibilities of each are clear and do not overlap. The system should reflect the principle that continuing education should be organized and conducted as an integral part of the health-care system.

If such a law is to be effective, three conditions should be observed:

1. A national body should be set up, with technical and administrative staff to support the district committees.
2. Continuing education should receive constant financial support and its budgetary needs at both central and district levels should be regularly reviewed.
3. National and district educational institutions should be integrated into the continuing-education system so that a wide range of educational expertise, facilities and resources is always available.

Continuing education for district health personnel is a vital part of the process of national health development. Its funding should, therefore, be thought of as part of economic support for national strategies for health for all (*16*).

Continuing education is an excellent way of making better use of resources at district level and it must, therefore, be provided for in financial planning for health for all. A proportion of the health-care budget should be allocated to continuing education. In countries in difficult economic circumstances, efforts should be made to attract external funds to support the development and maintenance of a comprehensive system.

6. RECOMMENDATIONS

6.1 Recommendations to Member States

The Expert Committee recommends that Member States should:

1. Give priority to providing continuing education for existing health personnel at the district level.
2. Develop national programmes for continuing education at district level, reflecting the interests, needs and resources of districts.
3. Set specific performance standards for each category of district health staff. These standards should be used for the supervision and evaluation of health staff, and for planning continuing education.
4. Develop a "networking" system for continuing education to support, facilitate, direct and monitor continuing-education activities at the district level and to share resources.
5. Establish a national coordinating body for continuing education, alone or as part of a larger body dealing with national policy for health personnel. Such a body should include representatives from health and educational institutions, but it should not act as an executive organization charged with running continuing-education programmes. Instead, its major functions should include policy development and coordinating the activities of institutions with responsibility for continuing education. In addition, it should propose annual budgetary allocations and develop guidelines for the accreditation of continuing-education programmes.
6. Support a system of continuing education for district health workers by allocating sufficient resources from the annual health budget (as an agreed proportion of total personnel costs) to establish continuing education in districts where it does not exist and to sustain it where it does exist. Funds should be allocated according to a specific programme with clearly defined annual targets, and distributed equitably among different types of health workers (hospital-based/primary health care), health-care programmes (preventive/curative) and geographical areas (rural/urban).
7. Stimulate and support educational research as a means of (*a*) developing suitable methods of promoting learning;

(*b*) determining educational needs; and (*c*) designing and implementing evaluation techniques.

8. Require the inclusion of: (*a*) continuing-education tasks and skills in the job descriptions of managers and supervisors; and (*b*) continuing-education concepts and methods in formal management courses. The inclusion of individual study techniques in the training of these health professionals should be promoted.
9. Strengthen the training of district health managers to improve their management skills, particularly in the use of continuing education as a tool in personnel management. Such training should use a wide range of educational strategies including, but not limited to, distance education, in-service workshops, short courses, practice under supervision and modular programmes leading to a degree or certificate. Schools of public health and other relevant institutions and organizations should be strengthened to enable them to help meet this need.
10. Strengthen and utilize the feedback provided by the referral system and other mechanisms connecting the different levels of care to support primary health care and as a means of continuing education for district health personnel.
11. Involve tertiary health-care institutions, universities and schools for training health professionals in the organization, implementation and evaluation of continuing-education programmes for health workers at district level.
12. Involve organizations of health professionals, working with district health services, in the design of continuing education to update the knowledge and skills relevant to the needs of health workers.
13. Encourage associations of health workers to support national policies for continuing education for all health workers, with special emphasis on district health services.
14. Provide incentives to individual health workers in the district to accept responsibility for ensuring that they and their colleagues continue to learn. Such incentives might include degrees, certificates, renewal of licences to practise and financial rewards. It is also recommended that supervisors accept responsibility for encouraging, supporting and guiding health workers in their formal and informal learning.
15. Involve district communities in discussing and describing their health problems, and apply such information to defining

continuing-education needs that reflect community problems and the levels of competence of health personnel.

6.2 Recommendations to WHO

The Expert Committee recommends that WHO should:

1. Bring to the attention of the Executive Board and the World Health Assembly the Expert Committee's consensus on the importance of continuing education in the everyday work of all health personnel.
2. Support Member States in testing and establishing a method of integrating continuing education into the work of district health systems, as an essential part of district health management, and in utilizing and publicizing the results of their efforts.
3. Give high priority to the support of district-level training activities (workshops, seminars, etc.) that serve to integrate continuing education for existing vertical programmes.
4. Promote the establishment of training programmes, to be held in the districts wherever possible, in the design and management (including implementation and evaluation) of continuing education at the district level.
5. Continue and increase its support for the training of district health personnel in the proper use both of conventional methods of continuing education (e.g. workshops and short courses) and of new methods (e.g. distance learning and problem-based tutorials).

6.3 Recommendations to Member States and WHO

The Expert Committee recommends that both Member States and WHO should encourage operational and action research on continuing education, as well as on health services, by suitable health personnel at the district level. The results of such research should be utilized both in future health planning and for the purposes of continuing education.

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As countries reorient their health systems towards primary health care, changes are needed in health-care practice and administration. A priority in district health management is to promote the acquisition of the necessary new skills and knowledge by health personnel, while maintaining high levels of competence and motivation. This report of a WHO Expert Committee discusses how a systematic programme of continuing education for staff at all levels can be used effectively to achieve this objective, and thereby to support the functioning of the district health system and its role in ensuring universal access to primary health care. In considering the various factors that affect the organization of a system of continuing education—including political and financial commitment, educational methods and needs for health personnel development, intersectoral action, and community involvement—the report identifies ways in which the performance of health workers can be strengthened. It concludes with recommendations for the efficient planning and management of continuing education at district level.

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